INFORMATIVE

RESONANT REED DEFINITIONS

<u>Resonant Frequency</u> is the frequency of audio input at which contact closure can be obtained with the least amount of power input.

<u>Natural Frequency</u> is that frequency at which an encoder reed operates.

<u>Design Frequency</u> is the reference frequency from which tuning tolerance and bandwidth are specified.

<u>Frequency Tuning Tolerance</u> is the allowable range within which the resonant (or natural) frequency is tuned.

<u>Frequency Stability</u> is the frequency variation per degree centigrade of temperature change. The change varies inversly to temperature with 25° C. reference.

<u>Bandwidth</u> is the frequency range through which closure occurs at normal operating power level.

<u>Minimum Bandwidth</u> is the frequency range through which contact closure <u>must</u> occur. It is specified at the normal operating power level and referenced to design frequency.

<u>Maximum Bandwidth</u> is the frequency range outside of which contact closure must <u>not</u> occur. It is specified at the normal operate power level and referenced to design frequency.

<u>Threshold Sensitivity</u> is the minimum power level at which contact closure occurs.

<u>Minimum Sensitivity</u> is the power level above which contact closure <u>must</u> occur at design frequency input.

<u>Maximum Sensitivity</u> is the power level below which contact closure must <u>not</u> occur at any frequency input.

<u>Contact Duty Cycle</u> is the percentage of time the contacts are closed per cycle. It is measured at <u>resonant</u> frequency and normal operating power level.

<u>Contact Rating</u> is the maximum peak voltage and current into a resistive load.

<u>Response Time</u> is the elapsed time between application of the signal to the relay coil and the initial contact closure. It is measured at <u>resonant</u> frequency and normal operating power level.

Diagram of two relay response curves at extremes of the tuning tolerance,
illustrating the derivation of sensitivity and bandwidth specifications.
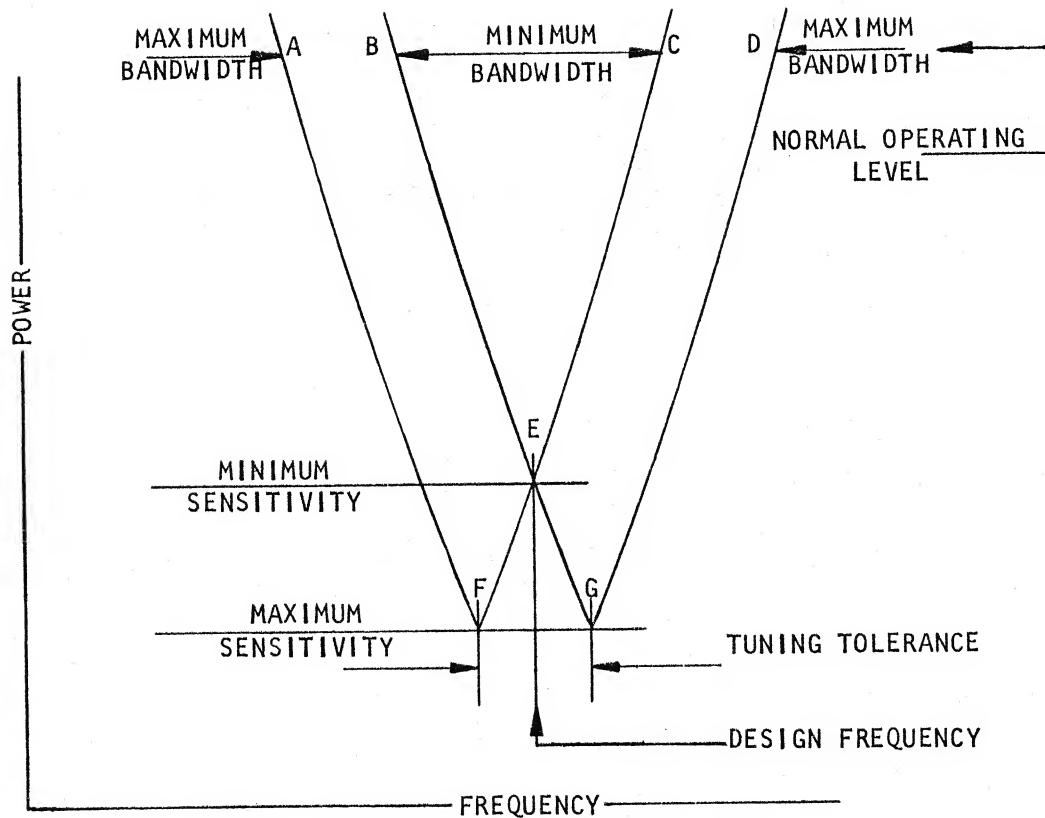
Area ACF represents response* of a relay tuned to the extreme low limit of
    tuning tolerance.

Area BDG represents response of a relay tuned to the extreme high limit of
    tuning tolerance.

Area BCE represents the assured system response, with any relay tuned within
    the tuning and bandwidth tolerances.

Area ADFG represents the region within which response may occur, but outside
    of which response is assured not to occur.

*Response is defined as contact closure obtained by slowly increasing power
    at fixed frequency settings.